

CLAIMS

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A method of using a seismic detector including four seismic sensors having axes which are in a substantially tetrahedral configuration, to detect and measure seismic activity, each of the sensors being in a respective signal channel, the method including the step of combining outputs from the sensors to check that their polarities are correct.

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A method of using a seismic detector including four seismic sensors having axes which are in a substantially tetrahedral configuration, to detect and measure seismic activity, each of the sensors being in a respective signal channel, the method including the step of testing to ascertain if one of the sensors is not working and, if so, using the outputs from the other three sensors to obtain an indication of motion in three dimensions.

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3. A method of using a seismic detector including four seismic sensors having axes which are in a substantially tetrahedral configuration, to detect and measure seismic activity, each of the sensors being in a respective signal channel, the method including the step of, if all four sensors are working, using their outputs to obtain an indication of motion in three dimensions on a least squares basis.

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4. A method of using a seismic detector including four seismic sensors having axes which are in a substantially tetrahedral configuration, to detect and measure seismic activity, each of the sensors being in a respective signal channel, the method including the step of checking that the outputs from the sensors are coherent.

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5. A method of using a seismic detector including four seismic sensors having axes which are in a substantially tetrahedral configuration, to detect and measure seismic activity, each of the sensors being in a respective signal channel, the method including the step of checking the gains (or sensitivities) of the four channels.

6. A method of using a seismic detector including four seismic sensors having axes which are in a substantially tetrahedral configuration, to detect and measure seismic activity, each of the sensors being in a respective signal channel, the method including the following steps:

- a) combining outputs from the sensors to check that their polarities are correct;
- b) testing to ascertain if one of the sensors is not working and, if so, using the outputs from the other three sensors to obtain an indication of motion in three dimensions.
- c) if all four sensors are working, using their outputs to obtain an indication of motion in three dimensions on a least squares basis;
- d) checking that the outputs from the sensors are coherent; and
- e) checking the gains (or sensitivities) of the four channels.